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**(54) GROUT AND  
UNDERGROUND  
FORMATION OF CURED  
OBJECT BY USING THE  
SAME GROUT**

(57) Abstract:

**PURPOSE:** To obtain a grout improved in flow so as to be pumped from the ground by mixing a cement with calcium silicate hydrate powder, a fine aggregate and mixing water.

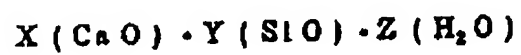
**CONSTITUTION:** A calcium material, a silicic material, etc., are

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subjected to a hydration reaction, followed by atmospheric pressure steam curing, a high-temperature high-pressure steam curing, etc., and ground to obtain a calcium silicate hydrate powder (A) of a particle diameter of 1mm or below, represented by the formula (wherein X, Y and Z are positive integers). 100 pts.wt. cement (B) (e.g., portland cement) is mixed with 150-250 pts.wt. component A, 200-500 pts.wt. fine aggregate (C), and 70-110wt%, based on the total amount of components A and B, mixing water to obtain a grout. Said grout is pumped from the ground into a water-permeable bag inserted into the ground, whereupon said bag is expanded while excessive water is removed from the grout to form an underground cured object.

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TI Grout and strengthening of soil by the grout

IN Motomura, Osamu

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K017-00

CC 58-5 (Cement, Concrete, and Related Building Materials)

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AB The grout comprises cement 100, hydrated Ca silicate powder 150-250, and fine aggregate 200-500 wt. parts with 70-110 wt.% (based on cement and hydrated Ca silicate) mixing water. The grout is pumped into water-permeable bags inserted into soil foundation and hardened to strengthen the foundation.

ST grout cement silicate soil strengthening

IT Grout  
(cement, hydrated calcium  
silicate in, for soil strengthening)

IT Aggregates  
(fine, grout contg., hydrated calcium  
silicate and aggregate in, for soil strengthen